

PCT-US99-25692.txt
SEQUENCE LISTING

<110> The Regents of the University of California
Chien, Kenneth
Dillmann, Wolfgang
Minamisawa, Susanne
He, Huaping
Hoshijima, Masahiko
Meyer, Markus
Scott, Christopher
Wang, Yibin
Silverman, Gregg J.

<120> METHOD FOR INHIBITION OF PHOSPHOLAMBAN ACTIVITY FOR THE TREATMENT
OF CARDIAC DISEASE

<130> 6627-PA9025

<150> 60/106,718

<151> 1998-11-02

<150> PCT/US99/25692

<151> 1999-11-02

<160> 19

<170> PatentIn version 3.2

<210> 1

<211> 52

<212> PRT

<213> Homo sapiens

<400> 1

Met Glu Lys Val Gln Tyr Leu Thr Arg Ser Ala Ile Arg Arg Ala Ser
1 5 10 15

Thr Ile Glu Met Pro Gln Gln Ala Arg Gln Lys Leu Gln Asn Leu Phe
20 25 30

Ile Asn Phe Cys Leu Ile Leu Ile Cys Leu Leu Leu Ile Cys Ile Ile
35 40 45

Val Met Leu Leu
50

<210> 2

<211> 52

<212> PRT

<213> Homo sapiens

<400> 2

Met Glu Lys Val Gln Tyr Leu Thr Arg Ser Ala Ile Arg Arg Ala Ser
1 5 10 15

Thr Ile Glu Met Pro Gln Gln Ala Arg Gln Lys Leu Gln Asn Leu Phe
Page 1

20

25

30

Ile Asn Phe Cys Leu Ile Leu Ile Cys Leu Leu Leu Ile Cys Ile Ile
 35 40 45

Ala Met Leu Leu
 50

<210> 3
 <211> 52
 <212> PRT
 <213> Homo sapiens

<400> 3

Met Ala Lys Val Gln Tyr Leu Thr Arg Ser Ala Ile Arg Arg Ala Ser
 1 5 10 15

Thr Ile Glu Met Pro Gln Gln Ala Arg Gln Lys Leu Gln Asn Leu Phe
 20 25 30

Ile Asn Phe Cys Leu Ile Leu Ile Cys Leu Leu Leu Ile Cys Ile Ile
 35 40 45

Val Met Leu Leu
 50

<210> 4
 <211> 52
 <212> PRT
 <213> Homo sapiens

<400> 4

Met Glu Lys Val Gln Tyr Leu Thr Arg Ser Ala Ile Arg Glu Ala Ser
 1 5 10 15

Thr Ile Glu Met Pro Gln Gln Ala Arg Gln Lys Leu Gln Asn Leu Phe
 20 25 30

Ile Asn Phe Cys Leu Ile Leu Ile Cys Leu Leu Leu Ile Cys Ile Ile
 35 40 45

Val Met Leu Leu
 50

<210> 5
 <211> 52
 <212> PRT
 <213> Homo sapiens

<400> 5

Met Glu Lys Val Gln Tyr Leu Thr Arg Ser Ala Ile Arg Arg Ala Asn
1 5 10 15

Thr Ile Glu Met Pro Gln Gln Ala Arg Gln Lys Leu Gln Asn Leu Phe
20 25 30

Ile Asn Phe Cys Leu Ile Leu Ile Cys Leu Leu Leu Ile Cys Ile Ile
35 40 45

Val Met Leu Leu
50

<210> 6
<211> 52
<212> PRT
<213> Homo sapiens

<400> 6

Met Glu Glu Val Gln Tyr Leu Thr Arg Ser Ala Ile Arg Glu Ala Ser
1 5 10 15

Thr Ile Glu Met Pro Gln Gln Ala Arg Gln Lys Leu Gln Asn Leu Phe
20 25 30

Ile Asn Phe Cys Leu Ile Leu Ile Cys Leu Leu Leu Ile Cys Ile Ile
35 40 45

Val Met Leu Leu
50

<210> 7
<211> 16
<212> PRT
<213> Drosophila melanogaster

<400> 7

Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys
1 5 10 15

<210> 8
<211> 16
<212> PRT
<213> Homo sapiens

<400> 8

Met Glu Lys Val Gln Tyr Leu Thr Arg Ser Ala Ile Arg Arg Ala Ser
1 5 10 15

<210> 9

<211> 269
 <212> PRT
 <213> Homo sapiens

<400> 9

Met His His His His His His Val Ala Gln Ala Ala Leu Thr His Ser
 1 5 10 15

Ser Ser Val Ser Ala Asn Pro Gly Glu Thr Val Lys Ile Thr Cys Ser
 20 25 30

Gly Gly Gly Asn Tyr Ala Gly Ser Tyr Tyr Tyr Gly Trp Phe Gln Gln
 35 40 45

Lys Ser Pro Gly Ser Ala Pro Val Thr Val Ile Tyr Ser Asn Asp Gln
 50 55 60

Arg Pro Ser Asn Ile Pro Ser Arg Phe Ser Gly Ser Thr Ser Gly Ser
 65 70 75 80

Thr Ser Thr Leu Thr Ile Thr Gly Val Arg Ala Glu Asp Glu Ala Val
 85 90 95

Tyr Phe Cys Gly Ser Asn Ser Gly Thr Gly Tyr Val Gly Ile Phe Gly
 100 105 110

Ala Gly Thr Thr Leu Thr Val Leu Gly Gln Ser Ser Arg Ser Ser Thr
 115 120 125

Val Thr Leu Asp Glu Ser Gly Gly Gly Leu Gln Thr Pro Gly Gly Ala
 130 135 140

Leu Ser Leu Val Cys Arg Ala Ser Gly Phe Thr Phe Ser Arg Phe His
 145 150 155 160

Met Met Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ala
 165 170 175

Gly Ile Asp Asp Gly Gly Ser Phe Thr Leu Tyr Gly Ala Ala Val Lys
 180 185 190

Gly Arg Ala Thr Ile Leu Arg Asp Asn Gly Gln Ser Thr Val Arg Leu
 195 200 205

Gln Leu Asp Asn Leu Arg Pro Glu Asp Thr Ala Thr Tyr Phe Cys Val
 210 215 220

Lys Thr Lys Cys Gly Gly Asn Gly Trp Cys Gly Ala Asp Arg Ile Asp
 Page 4

225

230

235

240

Ala Trp Gly His Gly Thr Glu Val Ile Val Ser Ser Thr Ser Gly Gln
 245 250 255

Ala Gly Gln Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Ser
 260 265

<210> 10
 <211> 36
 <212> PRT
 <213> Homo sapiens

<400> 10

Met Glu Lys Val Gln Tyr Leu Thr Arg Ser Ala Ile Arg Arg Ala Ser
 1 5 10 15

Thr Ile Glu Met Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met
 20 25 30

Lys Trp Lys Lys
 35

<210> 11
 <211> 35
 <212> PRT
 <213> Homo sapiens

<400> 11

Gly Gly Gly Gly Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Met
 1 5 10 15

Glu Lys Val Gln Tyr Leu Thr Arg Ser Ala Ile Arg Arg Ala Ser Thr
 20 25 30

Ile Glu Met
 35

<210> 12
 <211> 36
 <212> PRT
 <213> Homo sapiens

<400> 12

Met Glu Lys Val Gln Tyr Leu Thr Arg Ser Ala Ile Arg Arg Ala Glu
 1 5 10 15

Thr Ile Glu Met Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met
 20 25 30

Lys Trp Lys Lys
35

<210> 13
<211> 35
<212> PRT
<213> Homo sapiens

<400> 13

Gly Gly Gly Gly Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg Met
1 5 10 15

Glu Lys Val Gln Tyr Leu Thr Arg Ser Ala Ile Arg Arg Ala Glu Thr
20 25 30

Ile Glu Met
35

<210> 14
<211> 16
<212> PRT
<213> Drosophila melanogaster

<400> 14

Arg Gln Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys
1 5 10 15

<210> 15
<211> 11
<212> PRT
<213> Human immunodeficiency virus

<400> 15

Tyr Gly Arg Lys Lys Arg Arg Gln Arg Arg Arg
1 5 10

<210> 16
<211> 61
<212> PRT
<213> Escherichia coli

<400> 16

Met Arg Gly Ser His His His His His His Gly Met Ala Ser Met Thr
1 5 10 15

Gly Gly Gln Gln Met Gly Arg Asp Leu Tyr Asp Asp Asp Asp Lys Asp
20 25 30

Pro Ser Ser Arg Ser Ala Ala Gly Thr Met Glu Phe Arg Gln Ile Lys
35 40 45

Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys Ala
 50 55 60

<210> 17
 <211> 79
 <212> PRT
 <213> Escherichia coli

<400> 17

Met Glu Lys Val Gln Tyr Leu Thr Arg Ser Ala Ile Arg Arg Ala Ser
 1 5 10 15

Thr Ile Glu Met Pro Gln Gln Ala Arg Gln Lys Leu Gln Asn Leu Phe
 20 25 30

Ile Asn Phe Cys Leu Ile Leu Ile Cys Leu Leu Leu Ile Cys Ile Ile
 35 40 45

Val Met Leu Leu His His His His His His Lys Gly Glu Phe Arg Gln
 50 55 60

Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys Ala
 65 70 75

<210> 18
 <211> 79
 <212> PRT
 <213> Escherichia coli

<400> 18

Met Glu Lys Val Gln Tyr Leu Thr Arg Ser Ala Ile Arg Arg Ala Glu
 1 5 10 15

Thr Ile Glu Met Pro Gln Gln Ala Arg Gln Lys Leu Gln Asn Leu Phe
 20 25 30

Ile Asn Phe Cys Leu Ile Leu Ile Cys Leu Leu Leu Ile Cys Ile Ile
 35 40 45

Val Met Leu Leu His His His His His His Lys Gly Glu Phe Arg Gln
 50 55 60

Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys Ala
 65 70 75

<210> 19
 <211> 79
 <212> PRT

<213> Escherichia coli

<400> 19

Met Glu Lys Val Gln Tyr Leu Thr Arg Ser Ala Ile Arg Arg Ala Ser
1 5 10 15

Thr Ile Glu Met Pro Gln Gln Ala Arg Gln Lys Leu Gln Asn Leu Phe
20 25 30

Ile Asn Phe Cys Leu Ile Leu Ile Cys Leu Leu Ile Cys Ile Ile
35 40 45

Ala Met Leu Leu His His His His His Lys Gly Glu Phe Arg Gln
50 55 60

Ile Lys Ile Trp Phe Gln Asn Arg Arg Met Lys Trp Lys Lys Ala
65 70 75